

AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows. Insertions are shown underlined while deletions are ~~struck-through~~.

1 (currently amended): A polishing pad used for chemical mechanical polishing comprising:

a polishing region; and

a light-transmitting region constituted by a material having a ΔT of 10 or less which is defined by the equation

$$\Delta T = T_0 - T_1$$

wherein T_1 is a light transmittance of the material for the light-transmitting region in percentage as measured at a plurality of wavelengths between 400 and 700 nm after dipping the material in a KOH aqueous solution at pH 11 for 24 hours and T_0 is a light-transmittance of the material in percentage as measured at the plurality of wavelengths before the dipping,

wherein the light-transmitting region is in single layer structure comprising a polyurethane resin comprising 4,4'-diphenylmethane diisocyanate as an organic isocyanate and at least one high-molecular-weight ~~polyol~~polyol selected from the group consisting of polycaprolactone polyol, polyester polycarbonate polyol, and polyester polyol formed from adipic acid, hexane diol, and ethylene glycol,

whereby the change rate in the light transmittance of the light-transmitting region in ~~measurement wavelengths~~wavelength measurements of 400 to 700 nm before dipping is 50 (%) or less,

wherein the change rate (%) = {(maximum light transmittance in 400 to 700 nm – minimum light transmittance in 400 to 700 nm)/maximum light transmittance in 400 to 700 nm}×100.

2 (currently amended): A polishing pad used for chemical mechanical polishing comprising:

a polishing region; and

a light-transmitting region constituted by a material having a ΔT of 10 or less which is defined by the equation

$$\Delta T = T_0 - T_1$$

wherein T_1 is a light transmittance of the material for the light-transmitting region in percentage as measured at a plurality of wavelengths between 400 and 700 nm after dipping the material in an H_2O_2 aqueous solution at pH 4 for 24 hours and T_0 is a light-transmittance of the material in percentage as measured at the plurality of wavelengths before the dipping,

wherein the light-transmitting region is in single layer structure comprising a polyurethane resin comprising 4,4'-diphenylmethane diisocyanate as an organic isocyanate and at least one high-molecular-weight ~~polyol~~polyol selected from the group consisting of polycaprolactone polyol, polyester polycarbonate polyol, and polyester polyol formed from adipic acid, hexane diol, and ethylene glycol,

whereby the change rate in the light transmittance of the light-transmitting region in ~~measurement wavelengths~~wavelength measurements of 400 to 700 nm before dipping is 50 (%) or less,

wherein the change rate (%) = {(maximum light transmittance in 400 to 700 nm – minimum light transmittance in 400 to 700 nm)/maximum light transmittance in 400 to 700 nm}×100.

3 (currently amended): The polishing pad according to claim 1, wherein the material forming the light transmitting region is non-~~form~~foam.

4 (previously presented): The polishing pad according to claim 1, wherein the material forming the polishing region is fine-cell foam.

5 (canceled):

6 (previously presented): The polishing pad according to claim 1, wherein the polishing region at the polishing side is provided with grooves.

7 (currently amended): A method of manufacturing a semiconductor device, which comprises:

(i) providing a polishing pad comprising:

a polishing region; and

a light-transmitting region constituted by a material having a ΔT of 10 or less

which is defined by the equation

$$\Delta T = T_0 - T_1$$

wherein T_1 is a light transmittance of the material for the light-transmitting region in percentage as measured at a plurality of wavelength between 400 and 700nm after dipping the material in a KOH aqueous solution at pH 11 for 24 hours and T_0 is a light-transmittance of the material in percentage as measured at the plurality of the wavelengths before the dipping,

wherein the light-transmitting region is in single layer structure comprising a polyurethane resin comprising 4,4'-diphenylmethane diisocyanate as an organic isocyanate and at least one high-molecular-weight ~~polyol~~polyol selected from the group consisting of polycaprolactone polyol, polyester polycarbonate polyol, and polyester polyol formed from adipic acid, hexane diol, and ethylene glycol,

whereby the change rate in the light transmittance of the light-transmitting region in ~~measurement wavelengthswavelength measurements~~ of 400 to 700 nm before dipping is 50 (%) or less,

wherein the change rate (%) = {(maximum light transmittance in 400 to 700 nm – minimum light transmittance in 400 to 700 nm)/maximum light transmittance in 400 to 700 nm}×100; and

(ii) polishing the surface of a semiconductor wafer with the polishing pad .

8 (canceled):

9 (previously presented): The polishing pad according to 2, wherein the material forming the polishing region is fine-cell foam.

10 (previously presented): The polishing pad according to 3, wherein the material forming the polishing region is fine-cell foam.

11-13 (canceled):

14 (previously presented): The polishing pad according to claim 2, wherein the polishing region at the polishing side is provided with grooves.

15 (previously presented): The polishing pad according to claim 3, wherein the polishing region at the polishing side is provided with grooves.

16 (previously presented): The polishing pad according to claim 4, wherein the polishing region at the polishing side is provided with grooves.

17 (canceled):

18 (currently amended): A method of manufacturing a semiconductor device, which comprises:

(i) providing a polishing pad comprising:

a polishing region; and

a light-transmitting region constituted by a material having a ΔT of 10 or less which is defined by the equation

$$\Delta T = T_0 - T_1$$

wherein T_1 is a light transmittance of the material for the light-transmitting region in percentage as measured at a plurality of wavelengths between 400 and 700 nm after dipping the material in an H_2O_2 aqueous solution at pH ~~11.4~~ 4 for 24 hours and T_0 is a light-transmittance of the material in percentage as measured at the plurality of the wavelengths before the dipping,

wherein the light-transmitting region is in single layer structure comprising a polyurethane resin comprising 4,4'-diphenylmethane diisocyanate as an organic isocyanate and at least one high-molecular-weight ~~polyol~~ polyol selected from the group consisting of polycaprolactone polyol, polyester polycarbonate polyol, and polyester polyol formed from adipic acid, hexane diol, and ethylene glycol,

whereby the change rate in the light transmittance of the light-transmitting region in ~~measurement wavelengths~~ wavelength measurements of 400 to 700 nm before dipping is 50 (%) or less,

wherein the change rate (%) = {(maximum light transmittance in 400 to 700 nm - minimum light transmittance in 400 to 700 nm)/maximum light transmittance in 400 to 700 nm} \times 100; and

(ii) polishing the surface of a semiconductor wafer with the polishing pad.

19 (currently amended): A polishing pad for chemical mechanical polishing comprising:

a polishing region having a through-hole in an axial direction; and

a light-transmitting region fitted in the through-hole, said light-transmitting region being constituted by a material having a ΔT of 10 or less which is defined by the equation

$$\Delta T = T_0 - T_1$$

wherein T_1 is a light transmittance of the material for the light-transmitting region in percentage as measured at a plurality of wavelengths between 400 to 700 nm after dipping the material for 24 hours in a KOH aqueous solution having a pH of 11 or in an H_2O_2 aqueous solution having pH of 4, and T_0 is a light-transmittance of the material in percentage as measured at the plurality of the wavelengths before the dipping,

wherein the light-transmitting region is in single layer structure comprising a polyurethane resin comprising 4,4'-diphenylmethane diisocyanate as an organic isocyanate and at least one high-molecular-weight ~~polyol~~polyol selected from the group consisting of polycaprolactone polyol, polyester polycarbonate polyol, and polyester polyol formed from adipic acid, hexane diol, and ethylene glycol,

whereby the change rate in the light transmittance of the light-transmitting region in ~~measurement wavelengths~~wavelength measurements of 400 to 700 nm before dipping is 50 (%) or less,

wherein the change rate (%) = {(maximum light transmittance in 400 to 700 nm – minimum light transmittance in 400 to 700 nm)/maximum light transmittance in 400 to 700 nm}×100.

20 (canceled):

21 (previously presented): The polishing pad according to claim 19, further comprising a cushion layer laminated on a back side of the polishing region opposite to its polishing side, wherein the cushion layer has a through-hole at the same position as the light-transmitting region with respect to the axial direction.

22 (previously presented): The polishing pad according to claim 21, wherein the cushion layer is laminated on the polishing region using a double-coated tape.

23 (previously presented): The polishing pad according to claim 19, wherein the material is a polyurethane resin comprising an organic isocyanate, a polyol, and a chain extender.

24 (previously presented): The polishing pad according to claim 23, wherein in the polyurethane resin, a ratio of the number of isocyanate groups of the organic isocyanate to the number of functional groups of the polyol and the chain extender in total is 0.95 to 1.15.

25 (new): A method of manufacturing a polishing pad according to Claim 1, said method comprising:

measuring light transmittance of a light transmitting material,
dipping the material in an H_2O_2 aqueous solution at pH 4 for 24 hours,
measuring light transmittance of said material after dipping,
selecting the light transmittance material as the material having a ΔT of 10 or less

which is defined by the equation

$$\Delta T = T_0 - T_1$$

wherein T_1 is a light transmittance of the material for the light-transmitting region in percentage as measured at a plurality of wavelengths between 400 and 700 nm after dipping the and T_0 is a light-transmittance of the material in percentage as measured at the plurality of the wavelengths before the dipping, and

inserting the selecting material to the light transmitting region on the polishing pad.

26. (new): A method of manufacturing a polishing pad according to Claim 25,

wherein the selecting process further comprising selecting the light transmittance material having the change rate in the light transmittance of the light-transmitting region in wavelength measurements of 400 to 700 nm before dipping is 50 (%) or less,

wherein the change rate (%) = {(maximum light transmittance in 400 to 700 nm – minimum light transmittance in 400 to 700 nm)/maximum light transmittance in 400 to 700 nm}×100.